

Determination of Public Land (Rangeland) Health for 64074 TEEL PLACE

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the Teel Place allotment #64074 meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard will not be addressed.

/s/ T. R. KREAGER

Assistant Field Manager

09/20/2004

Date

Standards of Public Land Health

Evaluation of 64074 TEEL PLACE Allotment

[07/06/2004]

The Roswell Field Office conducted rangeland health assessments at one (1) study site within the Teel Place Allotment #64074. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64074-IDSU-A165 (*)	X	*		X	*		N/A		

Twenty-two indicators for Rangeland Health were evaluated for the public land on the Teel Place allotment #64074. Ten of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with quantitative information gathered from previous data collected one one location were utilized to assess the rangeland health of the public land within the allotment. This allotment is in the "C" (custodial) category due to the small amount of public land present.

Several years of dry conditions have impacted this site and the surrounding area. This ecological site classifies as a SD-3 loamy with a Sotim soil series on 693 acres/289 hectares. This series consists of deep well drained soil formed in alluvium on uplands with 0-5 percent slopes and elevations of 3,400 ft/1030 m. The location was last inventoried in 1991 for production and range condition.

The location represents a non-permanent study. A majority of indicators assessed rated in the Moderate category with soil, hydrological and biotic indicators. Some indicators however rated Moderate to Extreme. Pedestals and/or terracettes rate Moderate with slight active pedestaling occurring on mostly the dead grass clumps and occasionally on the shrub component. Percent bareground exceeds the upper end of the range expected for the ESD with estimates at 70 percent. This indicator rates at Moderate to Extreme. The gully formation is present and quite active headed towards the bottom where there is a distinct delineation between upland and lower drainage areas. Vegetation is intermittent with some active headcutting taking place. This indicator rates at Moderate. Due to the soil horizon loss and the migration of rock, gravel and pebbles to the surface, the soil surface loss or degradation indicator also rates Moderate regardless of the organic matter content. But this is evident mostly under the plant canopy and not as prevalent in the

interspaces. Plant community composition and distribution relative to infiltration and runoff rates at Moderate. The plant cover changes with creosote (*Larrea tridentata*) encroaching, are beginning to negatively affect infiltration. The last inventory 13 years ago did not indicate the presence of creosote, but rather javelinabush (*Condalia ericoides*). Now the site is mainly creosote with its allelopathic properties. Also the rills are hidden by rock and gravel. This also parallels the absence of the grama (*Bouteloua* spp.) and tobosa (*Pleuraphis mutica*) resulting in a Moderate rating for the functional groups indicator.

Litter amount rates Moderate with a current estimate of 10 percent. What small amount of litter was produced has been wind blown. Annual production only indicates less than 1/2 with the 1991 reading of 338 lbs/ac or kg/ha. This current estimate falls significantly less than the loamy ecological site description of 925 lbs/ac or kg/ha. This indicator rates Moderate mostly because this site doesn't usually produce huge amounts of forage. Invasive plants rates at Moderate to Extreme with creosote common throughout. The reproductive capability of perennial plants to reproduce rates Moderate also. Tiller formation by stolons and rhizomes is limited and the dry conditions cannot be discounted. Indirectly the change in plant community has altered the grass's ability to flourish and several years of less than favorable precipitation have undoubtedly augmented this situation. There is a generous amount of physical crusting taking place holding the soil intact with only a few breaks in continuity. This indicator rates Slight to Moderate.

Wildlife - Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as annual production and invasive plants, as discussed above. Specifically, one biotic indicator fell within the Moderate to Extreme rating, invasive plants. Four indicators fell within the moderate rating, Soil surface loss or degradation, litter amount, annual production and reproductive capability of perennial plants. These indicators are closely tied to the long term drought conditions, and should rebound over time with adequate climatic conditions and proper management of livestock based on current vegetative production levels.

Hydrology - Pasture IDSU - The pedestals and/or terracette indicator rated as moderate. The recent dry conditions in combination with wind and water erosion has possibly decreased the amount of plant cover and possibly decreased infiltration into the soils which may have increased the amount of pedestaling of plants and rocks. The bare ground indicator rated as moderate. The amount of bare ground has possibly increased due to recent dry conditions and also wind and water erosion processes. The gullies indicator rated moderate with active erosion and gully formation taking place. The increase in gullies has occurred because vegetation is very sparse and intermittent on slopes. The lack of vegetation has decreased infiltration and increased runoff. The soil surface loss or degradation has rated out as moderate. The recent dry conditions, decrease in the strength of physical crusts and or absence of soil crusts, wind velocity, surface dryness, and the decreased amount of surface plant cover has possibly increased soil

surface loss to degradation. The plant community composition and distribution relative to infiltration and runoff rated as moderate. The recent dry conditions or drought conditions have possibly increased the amount of conversion of grassland to shrub land which has reduced infiltration and increased runoff. The increase of all species and class would help increase water infiltration and decrease runoff. The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Additionally, the decrease in litter amount can have the effect of increasing the amount of bare soil. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary terrace gravel deposits outcrop in the area.

It is the professional opinion of the Assessment Team that the public land within the Teel Place allotment #64074 meets the Upland and Biotic standards. There are no Riparian issues present here, therefore this standard was not addressed. See site notes and recommendations for further information regarding this assessment.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Bare Ground
- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations: The encroachment of creosote (*Larrea tridentata*) and the recent dry conditions raise an issue for concern. The site is classified as loamy with representative vegetation from the 1991 inventory and soil survey. The soil loss can be sped up with the encroachment and care must be taken to ensure that the problem doesn't worsen. A more rigorous regiment of monitoring is recommended and steps may need to be taken to eradicate the shrub component. The method and timing of treatment may be a delicate issue since the site is situated on an upland with reduction in fibrous rooting plants is quite obvious.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 64074-IDSU-A165						
Legal Land Desc	SESE 9 0150S 0230E Meridian 23		Acreage		693	
Ecosite	042CY007NM LOAMY SD-3		Photo Taken		Y	
Watershed	13060007110 COTTONWOOD-WALNUT					
Observers	NAVARRO/MCGEE		Observation Date		07/06/2004	
County Soil Survey	NM666 CHAVES SOUTH		Soil Var/Taxad			
Soil Map Unit	So		Soil Taxon Name		SOTIM	
Texture Class	NM666 FSL		Soil Phase		SOTIM	
Texture Modifier	NM666 FINE SANDY LOAM					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	9.89		NOAA Growing Season Precipitation		7.41	
NOAA Avg Annual Precipitation	11.92		NOAA Avg Growing Season Precipitation		9.63	
Disturbances and Animal Use:	No livestock were observed. The area overlooks the farmand to the east and north.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extrem e	Moderat e to Extreme	Moderat e	Slight to Moderat e	None to Slight
S H	Rills					X
Comments :						
S H	Water Flow Patterns				X	
Comments :						
S H	Pedestals and/or Terracettes			X		
Comments :						

S H	Bare Ground		X			
Comments :	Estimation is now at 70%.					
S H	Gullies			X		
Comments :	Incidence of gullies is at the cutoff between the upland and the drainage.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments :						
H	Litter Movement				X	
Comments :	Some displacement.					
S H B	Soil Surface Resistance to Erosion				X	
Comments :	Both canopy and interspace samples are holding together.					
S H B	Soil Surface Loss or Degradation			X		
Comments :	The rocky surface indicates some horizon loss with pebbles and rock migrating to the surface.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff			X		
Comments :	Some runoff exists.					
S H B	Compaction Layer					X
Comments :						
B	Functional/Structural Groups			X		
Comments :	Moderate reduction in F/S groups and species.					
B	Plant Mortality/Decadence				X	
Comments :						
H B	Litter Amount			X		
Comments :	Moderate indicators ratings with estimations now at 10%.					

B	Annual Production			X		
Comments :	Only 1/3 of long-term data and significantly less than the ESD.					
B	Invasive Plants		X			
Comments :	Creosote is common.					
B	Reproductive Capability of Perennial Plants			X		
Comments :	Tiller and stolon formation is limited.					
S	Physical/Chemical/Biological Crusts				X	
Comments :	Physical crust with some breaks in continuity.					
B	Wildlife Habitat				X	
Comments :						
B	Wildlife Populations				X	
Comments :						
B	Special Status Species Habitat					X
Comments :	None known to occur.					
B	Special Status Species Populations					X
Comments :	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	1	3	4	2
H	Hydrologic	0	1	5	3	2

B	Biotic	0	1	5	4	3
<p>B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the <i>Does not Meet</i> column, Moderate becomes <i>May Need More Info</i>, and Slight to Moderate and None to Slight merge to form the <i>Meets</i> columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.</p>						
Attribute	Rationale	Does Not Meet	May Need More Info	Meets		
Soil		1	3	6		
Hydrologic		1	5	5		
Biotic		1	5	7		
<p>Site Notes: The location was gps'd. Pronghorn (<i>Antilocapra americana</i>) habitat. The loamy upland is being drained into the bottom portion or drainage. The drought continues to impact this allotment and surrounding areas. Creosote is encroaching the upland portion. The late spring rainfall events have helped the site to grow some forage but with the onset of the arid, hot and dry conditions this summer the grass and other forage is beginning to dry up.</p>						

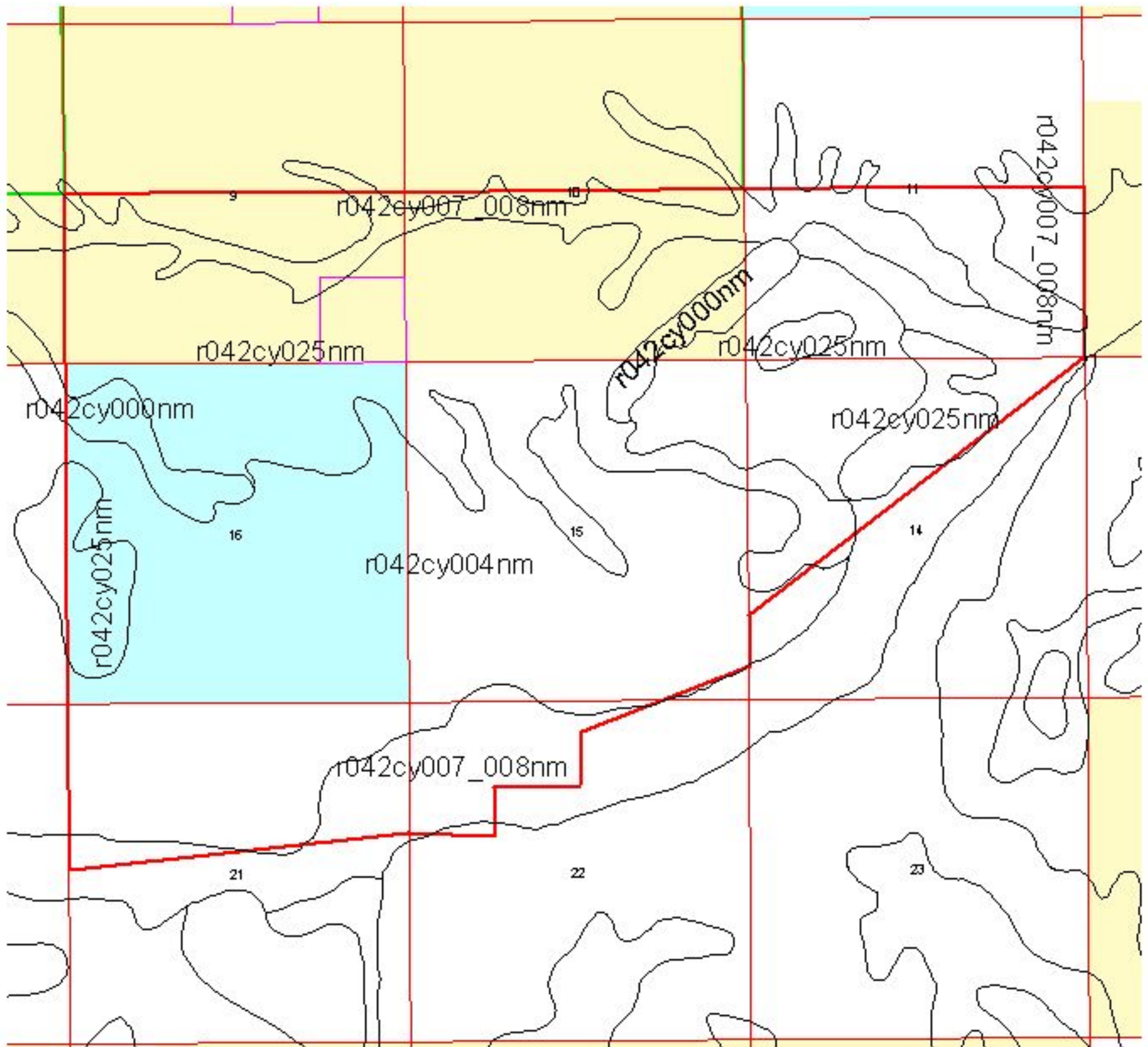


Rangeland Health Assessment Ecological Sites



Allotment 64074

T15S.R23E



T15S.R23E

0.5 0 0.5 Miles



Public



Study Plots



State



Private



Study Locations



Pasture Boundary



Ecological Sites



Allotment Boundary

Produced by the Roswell Field Office
GIS Intern on July 25, 2003.

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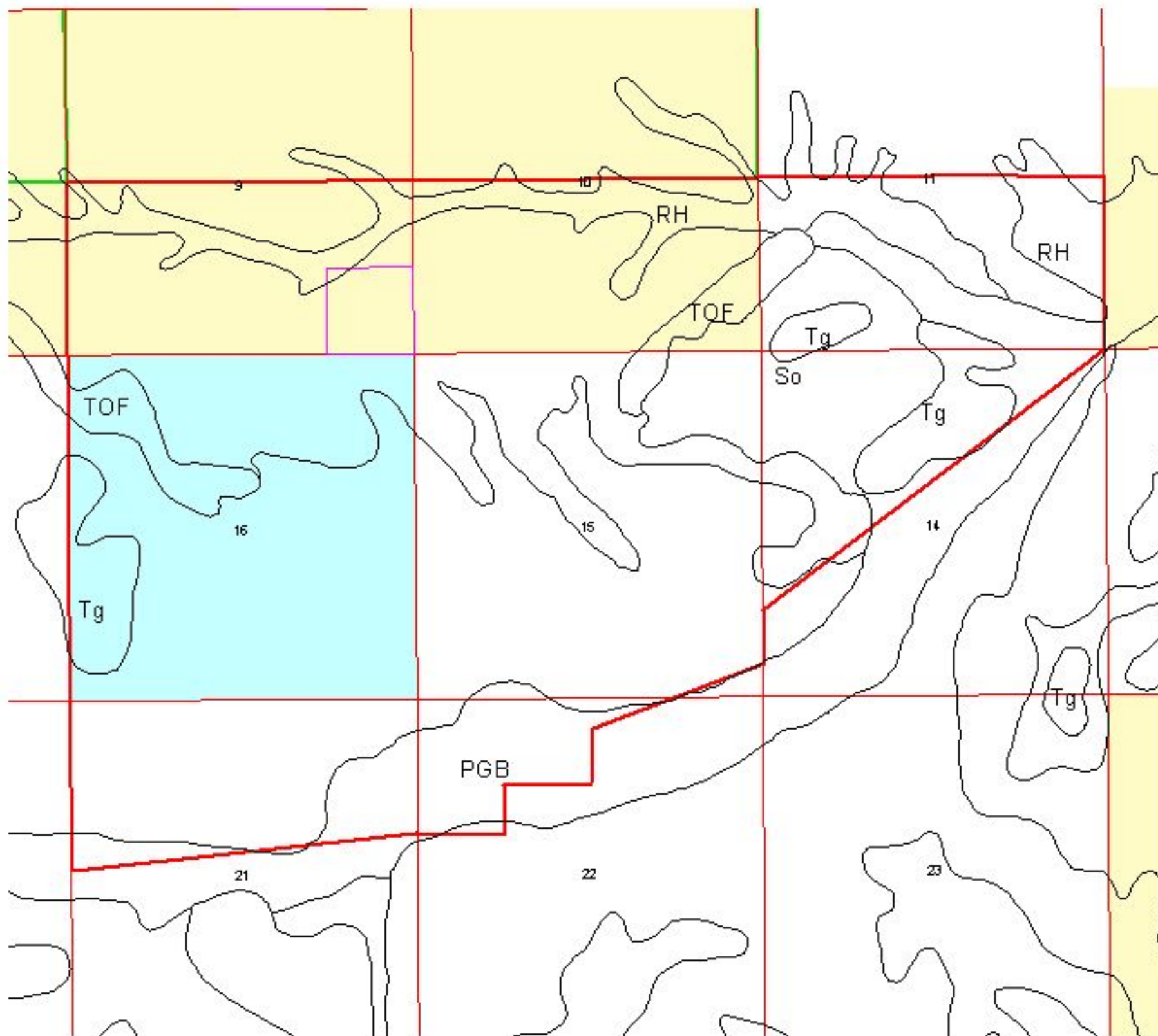


Rangeland Health Assessment Soil Mapping Units



Allotment 64074

T15S.R23E



0.5 0 0.5 Miles

T15S.R23E



Public



Study Plots



State



Private



Study Locations



Pasture Boundary



Soil Mapping Units



Allotment Boundary

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